

REMARKS

Claims 1-19 are in this application. New claims 16-19 have been added.

Claim Rejections – 35 U.S.C. § 112

Claims 10-11 and 15 have been rejected under 35 U.S.C. § 112, first paragraph.

(a) The Examiner states that claims 10 and 11 are indefinite because “a time required to complete thermal treatment” has not been disclosed.

Applicants respectfully submit the foregoing limitations are clearly supported at least by the statements in page 12, lines 6-14 of the specification.

More specifically, the specification clearly states that the “maintaining time of the predetermined temperature in the heating-treatment step is determined such that a time equal to or more than at least a time required for treatment of the inflators is secured by confirming both or one of a time elapsing before all gas generating materials, enhancers, chemical substances such as a primer inside [an] inflators are activated (in the hybrid inflators, a time elapsing before gases charged therein rupture the rupturable plates to discharge the charged gases, namely, a time required for treatment of the inflators).

From the foregoing statements, it is clear that the “time required to complete thermal treatment of an inflator” is a time required for at least one of all gas generating materials, enhancers, and chemical substances such as a primer inside the inflators to be activated, or in the case of hybrid inflators, a time required for the gases charged therein to rupture the rupturable plates to discharge the charged gases.

Therefore, claims 10 and 11 clearly comply with the enablement requirement.

(b) The Examiner also states that claim 15 is indefinite because it is not clear as to what “those holding water” refers to.

With regard to claim 15, the “those holding water” limitation has been amended to --the inflators holding water-- to overcome this rejection.

The reason why the inflators may hold water is as follows.

Inflators that have been heat-treated may be left outside for sometime until they are subject to the melting treatment. During that period, rainwater may enter the inflators.

If such inflators (inflators that contain water) melted for recovery of metal, the water vapor inside the inflators may explode as stated in page 15 of the specification. Therefore, as claimed in claim 15, the inflators are preferably cut into pieces prior to the melting step to dispose of such water.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claim Rejections – 35 U.S.C. § 103

(a) Claims 1, 2, 6, and 10-11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori et al. (USP 5,849,062) in view of Morey (USP 4,362,276). This rejection is respectfully traversed.

The claimed invention of the present application prepares “inflators to be thermally treated without destroying vehicles.”

Fukabori discloses a method for recovering metallic materials of gas generator for air bag. As stated at least in the abstract, col. 2, lines 20-29, however, Fukabori recovers inflators by

crushing waste vehicles in which air bag apparatuses are installed by a crushing means, and taking the gas generators out of the crushed pieces of the waste vehicles.

Therefore, in Fukabori, even when recovering an inferior (or defective) inflator from a vehicle so that the recovered inflator can be thermally processed, Fukabori has to crush the vehicle in order to recover the inflator even though the vehicle might be in a good running condition.

In view of this, Fukabori does not prepare “inflators to be thermally treated without destroying vehicles.” Accordingly, Fukabori fails to disclose or suggest the “preparing” step as recited in claim 1.

Morey merely discloses recovering metal and plastic from an insulated wire, and does not disclose or suggest preparing “inflators to be thermally treated without destroying vehicles.” Accordingly, Morey fails to disclose or suggest the “preparing” step as recited in claim 1.

Therefore, even assuming, *arguendo*, that Fukabori and Morey can be combined, Fukabori in view of Morey fails to disclose or even suggest the "preparing" step as recited in claim 1.

Claims 2, 6, and 10-11, variously dependent on claim 1, are allowable at least for their dependency on claim 1.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(b) Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Duckworth (August 2002). This rejection is respectfully traversed.

Claim 9, variously dependent on claim 1, is allowable at least for its dependency on claim 1.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(c) Claims 3-5 and 7-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Morey and further in view of EP 0 818 547 A1 (EP'547). This rejection is respectfully traversed.

Claims 3-5 and 7-8, variously dependent on claim 1, are allowable at least for their dependency on claim 1.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(d) Claims 12-13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Morey and in further view of the ASM Handbook, formerly 9<sup>th</sup> edition, Metals Handbook, Volume 15, Casting ("Metals Handbook"). This rejection is respectfully traversed.

Claims 12-13, variously dependent on claim 1, are allowable at least for their dependency on claim 1.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(e) Claims 14-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Morey in further view of Metals Handbook and in further view of EP '547. This rejection is respectfully traversed.

Claims 14-15, indirectly dependent on claim 1, are allowable at least for their dependency on claim 1.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

New Claims

New claim 16, dependent on claim 1, is allowable at least for its dependency on claim 1.

The limitations recited in claim 16 is supported at least by the statements in page 5, lines 17-18 of the specification.

The limitations recited in claim 17 are supported at least by the statements in page 10, line 22 of the specification. Moreover, Fukabori merely discloses, in col. 4, 9-10, heating a non-actuated gas generator to 150° to 450°.

Claim 17 is allowable at least because none of the prior art of record discloses or suggests the step of “cutting and removing said wiring harnesses” from the inflators.

Further, this feature is important because in order to prevent malfunction of an igniter and unintended burning of gas generating agent during transportation of an inflator, the wire harness is cut in advance upon recovery of the inflator, and transported to the treatment equipment in a state where the wire harness attached to the inflator and placed in an inflator case specifically designed for transportation of such inflator.

Fukabori merely discloses shredding a waste vehicle. Therefore, wiring harnesses may be ripped apart during the shredding process and may cause inflators to activate unexpectedly.

Claims 18 and 19, dependent on claim 17, are allowable at least for their dependency on claim 17.

Further, with regard to claim 18, a gas generating agent remaining in an inflator can be removed (burned) at the temperature of 550°C or higher. If the temperature during the thermal treatment is lower than this temperature, part of the gas generating agent may still remain in the inflator. Therefore, it is important to carry out the thermal treatment at a temperature of 550°C or

higher, such that no gas generating agent remains in the inflator. Otherwise, an explosion of the inflator may occur resulting in scattering of metal objects.

Fukabori merely discloses that the inflator is treated at a temperature of 150 to 450°C, which is lower than the claimed invention.

A favorable determination by the Examiner and allowance of this claim is earnestly solicited.

Conclusion

Accordingly, in view of the above amendments and remarks, reconsideration of the rejections and allowance of the pending claims in the present application are respectfully requested.

The Examiner is respectfully requested to enter this Reply After Final in that it raises no new issues. Alternatively, the Examiner is respectfully requested to enter this Reply After Final in that it places the application in better form for Appeal.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Maki Hatsumi (#40,417) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

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Respectfully submitted,

for   
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Attachments: Substitute Specification - 14 pages  
Comparison Specification - 15 pages